

WHAT IS CLAIMED IS:

1. An electronic assembly, comprising:  
a printed circuit board;  
5 a processor mounted on the printed circuit board;  
a memory mounted on the printed circuit board;  
a routing channel in the printed circuit board comprising a plurality of conductors  
interconnecting the processor and the memory; and  
a regulator assembly comprising a regulator for providing power to the processor, a  
10 first connector mounted on the printed circuit board adjacent a first edge of the routing  
channel, and a second connector mounted on the printed circuit board adjacent a second edge  
of the routing channel opposite the first edge, the first and second connectors being coupled  
to the regulator and facilitating distribution of the power to the processor, the regulator and  
the first and second connectors forming a bridge across the routing channel.

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2. The electronic assembly of claim 1 wherein the processor comprises one of a  
plurality of processors mounted on the printed circuit board.

3. The electronic assembly of claim 1 wherein the processor comprises a  
20 memory controller operable to facilitate communication between the processor and the  
memory.

4. The electronic assembly of claim 1 wherein the memory comprises a plurality  
of memory modules mounted on the printed circuit board.

5. The electronic assembly of claim 1 wherein the first and second connectors are respectively configured to distribute substantially equal portions of the power to the processor.

5 6. The electronic assembly of claim 1 wherein the first and second connectors are respectively configured to distribute unequal portions of the power to the processor.

7. The electronic assembly of claim 1 wherein the regulator is in contact with a surface of the printed circuit board.

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8. The electronic assembly of claim 1 wherein the regulator is separated from a surface of the printed circuit board.

9. The electronic assembly of claim 1 wherein the regulator comprises a second  
15 printed circuit board having regulator circuit components mounted thereon.

10. The electronic assembly of claim 9 wherein the regulator circuit components form a switching regulator circuit.

20 11. The electronic assembly of claim 9 wherein the first and second connectors comprise edge connectors operable to receive the second printed circuit board.

12. The electronic assembly of claim 1 wherein the processor is mounted in a first air flow region of the printed circuit board and the memory is mounted in a second air flow

region of the printed circuit board, and wherein the regulator assembly is configured to inhibit air flow between the first and second air flow regions.

13. The electronic assembly of claim 1 wherein a longitudinal axis of the  
5 regulator assembly is aligned with an air flow vector corresponding to a cooling system associated with the electronic assembly.

14. The electronic assembly of claim 1 further comprising at least one additional  
connector for facilitating distribution of the power mounted on the printed circuit board in  
10 the routing channel between the first and second connectors.

15. The electronic assembly of claim 1 further comprising at least one support  
structure supporting the regulator in the routing channel.

15 16. The electronic assembly of claim 1 wherein the routing channel comprises a  
high-speed, high-density routing channel in which selected ones of the plurality of  
conductors are substantially equal in length.

17. The electronic assembly of claim 1 wherein the regulator assembly is  
20 mounted in close proximity to the processor as a point-of-use regulator.

18. An electronic assembly, comprising:  
a printed circuit board having a plurality of circuits mounted thereon;  
a routing channel in the printed circuit board comprising a plurality of conductors for  
25 interconnecting the plurality of circuits; and

a regulator assembly comprising a regulator for providing power to at least one of the circuits, a first connector mounted on the printed circuit board adjacent a first edge of the routing channel, and a second connector mounted on the printed circuit board adjacent a second edge of the routing channel opposite the first edge, the first and second connectors  
5 being coupled to the regulator and facilitating distribution of the power to the at least one of the circuits, the regulator and the first and second connectors forming a bridge across the routing channel.

19. The electronic assembly of claim 18 wherein the first and second connectors  
10 are respectively configured to distribute substantially equal portions of the power to the at least one of the circuits.

20. The electronic assembly of claim 18 wherein the first and second connectors  
are respectively configured to distribute unequal portions of the power to the at least one of  
15 the circuits.

21. The electronic assembly of claim 18 wherein the regulator is in contact with a surface of the printed circuit board.

20 22. The electronic assembly of claim 18 wherein the regulator is separated from a surface of the printed circuit board.

23. The electronic assembly of claim 18 wherein the regulator comprises a second printed circuit board having regulator circuit components mounted thereon.

24. The electronic assembly of claim 23 wherein the first and second connectors comprise edge connectors operable to receive the second printed circuit board.

25. The electronic assembly of claim 18 wherein the at least one circuit is  
5 mounted in a first air flow region of the printed circuit board and others of the plurality of circuits are mounted in a second air flow region of the printed circuit board, and wherein the regulator assembly is configured to inhibit air flow between the first and second air flow regions.

10 26. The electronic assembly of claim 18 wherein a longitudinal axis of the regulator assembly is aligned with an air flow vector corresponding to a cooling system associated with the electronic assembly.

27. The electronic assembly of claim 18 further comprising at least one additional  
15 connector for facilitating distribution of the power mounted on the printed circuit board in the routing channel between the first and second connectors.

28. The electronic assembly of claim 18 further comprising at least one support structure supporting the regulator in the routing channel.

20 29. The electronic assembly of claim 18 wherein the regulator assembly is mounted in close proximity to the at least one circuit as a point-of-use regulator.

30. A printed circuit board assembly, comprising:  
25 a printed circuit board;

a routing channel in the printed circuit board comprising a plurality of conductors for interconnecting a plurality of circuits mounted on the printed circuit board;

a first connector mounted on the printed circuit board adjacent a first edge of the routing channel; and

5 a second connector mounted on the printed circuit board adjacent a second edge of the routing channel opposite the first edge;

wherein the first and second connectors are configured to be coupled to a regulator and facilitate distribution of power therefrom to at least one of the circuits, the first and second connectors also being configured to form a bridge across the routing channel with the  
10 regulator.

31. The printed circuit board assembly of claim 30 wherein the first and second connectors are respectively configured to distribute substantially equal portions of the power to the at least one of the circuits.

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32. The printed circuit board assembly of claim 30 wherein the first and second connectors are respectively configured to distribute unequal portions of the power to the at least one of the circuits.

20 33. The printed circuit board assembly of claim 30 wherein the first and second connectors are configured to secure the regulator is in contact with a surface of the printed circuit board.

34. The printed circuit board assembly of claim 30 wherein the first and second connectors are configured to secure the regulator separated from a surface of the printed circuit board.

5        35. The printed circuit board assembly of claim 30 wherein the regulator comprises a second printed circuit board having regulator circuit components mounted thereon, the first and second connectors comprising edge connectors operable to receive the second printed circuit board.

10       36. The printed circuit board assembly of claim 30 wherein the first and second connectors are configured to orient the regulator to inhibit air flow between first and second air flow regions on the printed circuit board.

15       37. The printed circuit board assembly of claim 30 wherein the first and second connectors are configured to orient the regulator such that a longitudinal axis of the regulator is aligned with an air flow vector corresponding to a cooling system associated with the electronic assembly.

20       39. The printed circuit board assembly of claim 30 further comprising at least one additional connector for facilitating distribution of the power mounted on the printed circuit board in the routing channel between the first and second connectors.

40. The printed circuit board assembly of claim 30 further comprising at least one support structure operable to support the regulator in the routing channel.

41. The printed circuit board assembly of claim 30 wherein the first and second connectors are mounted such that the regulator is operable as a point-of-use regulator for the at least one circuit.